Matrix Technology

A Revolutionary Innovation in Advanced Filtration
Matrix Technology Supports Design Flexibility

CelFX Matrix Technology eliminates the 2 main restrictions historically placed on filter design: loading levels and pressure drop. By delivering a solution which offers much higher loading levels across a broader pressure drop range, CelFX Matrix Technology dramatically increases the degrees of freedom for filter and product designers. With its ability to allow dramatically higher loading levels in the same amount of space, CelFX Matrix Technology also requires less filter “real estate” thus freeing up room in the filter for other innovations such as multi-segment filters.

The power of CelFX Matrix Technology is best demonstrated by how it works with carbon. As can be seen below, a CelFX–based filter loaded with carbon can achieve loading levels as high as 20 mg of carbon per mm of filter and still offer the full pressure drop range. In addition to higher loading levels, the higher surface area also allows the cigarette designer to get the most impact from each milligram of carbon loaded into the matrix. Enabling designers to get more from less, it’s easy to see how CelFX Matrix Technology serves as an ideal platform for innovation.

Celanese brings cigarette filtration to a new level of performance and functionality with the commercial launch of CelFX Matrix Technology. At the core of CelFX technology is an inert binder which creates a highly porous matrix structure capable of holding different additives. The porous matrix and its high surface area delivers extremely efficient filtration performance while effectively introducing additives to the smoke stream.

In addition to providing a step-change in filtration performance, the CelFX Matrix Technology enables cigarette companies to design new product attributes and support innovations previously unavailable in the industry. Armed with CelFX Matrix Technology, the industry can now change the way it thinks about filtration.

Freedom to Innovate

Celanese, a leading and well-respected supplier into the cigarette industry, is known for the highest standards of quality and integrity. The introduction of CelFX Matrix Technology is yet another signal of Celanese’s serious commitment to delivering innovations and novel solutions that meet the needs of our customers.
Constituent Reduction
Managing the gas-phase constituents in the smoke stream remains an important issue in the cigarette industry. Our initial research indicates that the CelFX Matrix Technology has the ability to offer a step-change reduction in most of the known constituents when compared to standard carbon-on-tow products currently on the market, without impacting nicotine or tar levels.

For example, when compared with a standard carbon-on-tow filter segment 10 mm in size holding 56 mg of carbon, a CelFX-based filter segment, only 3 mm in size holding 55 mg of carbon, demonstrates a higher level of constituent reduction for a number of common smoke screening constituents.

Run CelFX Matrix Technology with Existing Equipment
A drop-in solution, CelFX-based rods have been designed to easily run on existing manufacturing machinery. Celanese has placed a priority on the ability of the technology to work well at industry speeds with all of the major combining machines currently used in the industry. Celanese anticipates only slight adjustments to equipment settings allowing CelFX Matrix Technology to run at full production speeds.

More of What You Want... Less of What You Don’t
Consider how CelFX Matrix Technology may help you achieve your product goals and objectives:

   Higher loading levels, broader pressure drop ranges and increased filter efficiency means more freedom for filter and product designers. As brands continue to look for ways to differentiate and deliver more with less, the CelFX Matrix Technology is well suited to meet many of these needs.

2. Product Profile Enhancement.
   The CelFX Matrix Technology can serve as a carrier for a broad range of enhancement additives including carbon and tobacco. With the ability to tune in the desired loading levels while delivering consistent drawability, the CelFX Matrix Technology can play a significant role in creating new product profiles. The CelFX binder also demonstrates much lower particle breakthrough than typically found in carbon-on-tow products.

3. Constituent Reduction.
   Leveraging the filtration efficiency that comes with CelFX Matrix Technology, the cigarette industry now has the ability to advance filter performance to a new level, targeting increased reductions in many common constituents.
Let Us Help You Move Innovation Forward

With over 50 years of experience in advancing the application of cigarette filter raw materials in a high speed production environment, the Celanese technical team can help your company meet emerging industry requirements and emerging product trends. CelFX Matrix Technology, with a number of value propositions attached to the technology, will be a driver of many new innovations in the years ahead.

Ask how Celanese can help you move toward new innovations and new product attributes with CelFX Matrix Technology. Our team will meet with you and listen to your product goals and objectives. From there, we will create a custom pilot program and work with you to identify how the CelFX Matrix Technology can be incorporated into your product innovation efforts and production processes.

Celanese Acetate Products – A Leader in the Industry

Celanese Acetate Products, a leading filter raw material supplier, brings a strong heritage of quality and innovation to the world’s cigarette producing industries. Celanese remains committed to technology developments aimed at improving the use of our products: Acetate flake, Acetate tow, and now CelFX Matrix Technology.

Advancing technology and creating technical solutions to help our customers in the cigarette industry process our products, improve quality and reduce overall cost, Celanese Acetate is ready to help the industry meet new challenges and open up new opportunities in the future.

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